



**DIAMOND  
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**PROJECT ASSURE  
DIAMOND VERIFICATION INSTRUMENT STANDARD REPORT**

**Summary Report for: Gemlogis USA / Vista UV Reflection Tester**



**Prepared For:** Lisa Levinson  
Diamond Producers Association Belgium ESV  
Hoveniersstraat 22  
Antwerp, 2018  
Belgium

Received Date: August 12, 2019  
Invid Number: 707070  
Assessment Dates: August 12, 2019 through August 13, 2019  
Testing ID Number: 1913365S-A\*  
Assessment Testing ID: 1913365  
Report Date: September 10, 2019


\*This Report supersedes the test report dated August 23, 2019. The report has been amended to correct the speed test results.

Approval By:

*Judith V Haber*  
Judith V. Haber  
Technical Manager

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UL Verification Services, Inc., 85 John Road, Canton, MA 02021  
Phone: (781) 821-2200 | Fax: (781) 821-9266 | Website: [www.ul.com/consumer-products](http://www.ul.com/consumer-products)

	Gemlogis USA / VISTA UV Reflection Tester		
	<b>Date:</b>	September 10, 2019	<b>Testing ID:</b>

**Manufacturer's Name:** Gemlogis USA  
**Instrument Model:** VISTA UV Reflection Tester  
**Serial Number:** 181903039A  
**Software Version:** NA  
**Lab Manager:** Winson Wong  
**Analyst/Operator:** Joseph Tiburcio

### Overview

The stated instrument was evaluated to Diamond Verification Instrument Standard Part 1 – Diamond Verification Instrument for Screening Diamonds from Synthetic Diamonds (30 January 2019) as referenced by the Diamond Verification Instrument Standard – General Requirements for Evaluation Diamond Verification Instruments (30 January 2019).


### Manufacturer's Claims for Instrument Capability

Sample Composition	
Type of Stones	Diamonds and Synthetic diamonds
Stone Size Range	1.7 to 15.3 mm (0.02 to 12 ct.)
Stone Color Range	Stone Color D to J
Loose / Mounted	Loose and Mounted
Single / Batch Stone Testing	Single Stone Testing
Automated / Manual Feed	Manual Feed

### Summary of Assessment

The instrument has been verified to be able to screen loose, round brilliant cut diamonds and synthetic diamonds in the size range of 1.7 to 3.7 mm (0.02 to 0.2 ct.) and D-J color range.

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**Results of Performance Testing to the Diamond Verification Instrument Standard**

**Test Stone Sets used to Assess Performance**

Loose, Polished Stone Test Sets	Diamond	Synthetic Diamond	Diamond Simulant
Primary Set (>2.00 mm, D-J colour) 748 diamonds, 150 synthetic diamonds	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Supp. Set A (>2.00 mm, D-J colour) 249 diamonds	<input checked="" type="checkbox"/>		
Supp. Set AB (>2.00 mm, D-J colour) 49 synthetic diamonds		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Supp. Set B (>2.00 mm, K-Z colour) 250 diamonds	<input type="checkbox"/>		
Supp. Set C (1.00-2.00 mm, D-J colour) 737 diamonds and 140 synthetic diamonds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supp. Set D (1.00-2.00 mm, D-J colour) 250 diamonds	<input type="checkbox"/>		
Supp. Set DE (1.00-2.00 mm, D-J colour) 51 synthetic diamonds		<input type="checkbox"/>	<input type="checkbox"/>
Supp. Set E (0.10-2.00 mm, K-Z colour) 250 diamonds	<input type="checkbox"/>		

**Results of instrument stone assessment testing of Combined Stone Sets -**

Test Property	Results for Loose, Polished Stone Test Sets	
	Primary and A&AB Combined	C and D&DE Combined
Diamond accuracy (%)	92.5	na
Synthetic diamond accuracy (%)	na <sup>[1]</sup>	na
Diamond referral rate (%)	7.5	na
Synthetic diamond referral rate (%)	100.0 <sup>[2]</sup>	na
Diamond false positive rate (%)	0.0	na
Synthetic diamond false positive rate (%)	0.0	na
Diamond false negative rate (%)	0.0	na
Synthetic diamond false negative rate (%)	0.0	na


Notes:

na Not applicable per instrument manufacturer

[1] Does not apply because this instrument does not classify stones as ‘Synthetic’

[2] This instrument classifies synthetic stones as ‘Type IIa/lab/HPHT/CVD’ which were reported as ‘Refer’

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Results of instrument testing speed assessment

Rate of Testing Speed Test Method	Average Test Result
<input type="checkbox"/> Test Method A: Fixed number of stones	212 stones per hour
<input checked="" type="checkbox"/> Test Method B: Fixed time frame	
<input type="checkbox"/> Test Method C: Reduced number of stones	

Results of instrument stone assessment testing of individual stone sets

Test Property	Results for Loose, Polished Stone Test Sets					
	Primary	A & AB	B & AB	C	D & DE	E & DE
Diamond accuracy (%)	92.8	91.6	na	na	na	na
Synthetic diamond accuracy (%)	na <sup>[1]</sup>	na <sup>[1]</sup>	na	na	na	na
Diamond referral rate (%)	7.2	8.4	na	na	na	na
Synthetic diamond referral rate (%)	100.0 <sup>[2]</sup>	100.0 <sup>[2]</sup>	na	na	na	na
Diamond false positive rate (%)	0.0	0.0	na	na	na	na
Synthetic diamond false positive rate (%)	0.0	0.0	na	na	na	na
Diamond false negative rate (%)	0.0	0.0	na	na	na	na
Synthetic diamond false negative rate (%)	0.0	0.0	na	na	na	na

Notes:

na Not applicable per instrument manufacturer

[1] Does not apply because this instrument does not classify stones as 'Synthetic'


[2] This instrument classifies synthetic stones as 'Type Ila/lab/HPHT/CVD' which were reported as 'Refer'

**Additional Notes from Assessment Findings**

Below is a summary of an additional findings from assessment:

- No additional comments

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**Definitions**

<b>Diamond Accuracy</b>	Defined as the fraction of test stones correctly classified by the specific diamond verification instrument as diamond.
<b>Synthetic Diamond Accuracy</b>	Defined as the fraction of test stones correctly classified by the specific diamond verification instrument as synthetic diamond.
<b>Diamond Referral Rate</b>	Defined as the fraction of diamonds that could not be classified by the specific diamond verification instrument and requires further.
<b>Synthetic Diamond Referral Rate</b>	Defined as the fraction of synthetic diamonds that could not be classified by the specific diamond verification instrument and requires further testing.
<b>Diamond False Positive Rate</b>	Defined as the fraction of synthetic diamonds and/or diamond simulants incorrectly classified as diamond by the specific diamond verification instrument.
<b>Synthetic Diamond False Positive Rate</b>	Defined as the fraction of diamonds and/or diamond simulants incorrectly classified as synthetic diamonds by the specific diamond verification instrument.
<b>Diamond False Negative Rate</b>	Defined as the fraction of diamonds incorrectly classified as synthetic diamond and/or diamond simulant by the specific diamond verification instrument.
<b>Synthetic Diamond False Negative Rate</b>	Defined as the fraction of synthetic diamonds incorrectly classified as diamond and/or diamond simulant by the specific diamond verification instrument.
<b>Rate of Testing Speed</b>	Defined as the average speed at which the diamond verification instrument evaluates unknown stones.

\*\*\*\*\* End of Report \*\*\*\*\*

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